

الف)		ب)		۱
ج)		د)		۲
الف) $x^2 - 5x + 6 > 0 \Rightarrow (x-2)(x-3) > 0$ 	ب) $x^2 - 5x + 6 < 0 \Rightarrow (x-2)(x-3) < 0$ 	ج) $x^2 + 4x + 5 > 0 \Rightarrow (x+1)(x+5) > 0$ 	د) $x^2 - 7x + 4 \leq 0 \Rightarrow (x-1)(x-4) \leq 0$ 	۳
الف) $\frac{x^2 - 3x + 2}{x - 5} < 0 \Rightarrow \frac{(x-1)(x-2)}{x-5} < 0$ 	ب) $\frac{x^2 - 1}{x^2 - 4x + 5} > 0 \Rightarrow \frac{(x-1)(x+1)}{(x-1)(x-5)} > 0$ 	ج) $y = \sqrt{\frac{x^2 - 1}{x^2 - x}} \Rightarrow \frac{x^2 - 1}{x^2 - x} > 0 \Rightarrow \frac{(x-1)(x+1)}{x(x-1)} > 0$ $(x-1)(x^2 + x + 1) \Rightarrow x^2 - x \neq 0 \Rightarrow x \neq 0, 1$ $x^2 \neq x \Rightarrow x \neq \pm 1, 0$ 	د) $y = \sqrt{\frac{x^2 - 16}{x^2 - 4x + 5}} \Rightarrow \frac{x^2 - 16}{x^2 - 4x + 5} > 0 \Rightarrow \frac{(x-4)(x+4)}{(x-1)(x-5)} > 0$ $x \neq 1, 5$ 	۴
$y = \sqrt{4 - \sqrt{2-x}}$ $2-x > 0 \Rightarrow x < 2$ $4 - \sqrt{2-x} > 0 \Rightarrow \sqrt{2-x} < 4 \Rightarrow 2-x < 16 \Rightarrow x > -14$ $-14 < x < 2$ $[-14, 2]$	$y = \sqrt{2 - \sqrt{x-2}}$ $x-2 > 0 \Rightarrow x > 2$ $2 - \sqrt{x-2} > 0 \Rightarrow \sqrt{x-2} < 2 \Rightarrow x-2 < 4 \Rightarrow x < 6$ $2 < x < 6$ $[2, 6]$			۵

$$\text{ا) } y = \sqrt{4 - 2x^2} \Rightarrow 4 - 2x^2 \geq 0 \Rightarrow$$

$$-2x^2 \geq -4 \Rightarrow x^2 \leq 2 \Rightarrow$$

$$-\sqrt{2} \leq x \leq \sqrt{2} \Rightarrow D = [-\sqrt{2}, \sqrt{2}]$$

Ⓟ ✓

$$\text{ب) } y = \sqrt{3|x| - 9} \Rightarrow 3|x| - 9 \geq 0$$

$$3|x| \geq 9 \Rightarrow |x| \geq 3 \Rightarrow$$

$$x \geq 3 \quad (-\infty, -3] \cup$$

$$x \leq -3 \quad [3, \infty)$$

Ⓟ

$$y = \frac{\sqrt{|x| + 1}}{\sqrt{|x| - 3}} \Rightarrow |x| - 3 \neq 0 \Rightarrow$$

$$|x| \neq 3 \Rightarrow$$

$$x \neq \pm 3 \Rightarrow D = \mathbb{R} - [\pm 3]$$

✓ Ⓟ

$$y = \frac{\sqrt{x + 1}}{\sqrt{x - 3}} \Rightarrow x \geq 0 \Rightarrow$$

$$\sqrt{x - 3} \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow$$

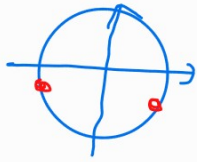
$$x \neq 9 \Rightarrow D = [0, +\infty) - \{9\}$$

Ⓟ

$$C \cdot \sin \neq \frac{1}{r} \rightarrow \text{Unit Circle} \rightarrow \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{3} \right\}$$

الف ۱

$$\sin \neq -\frac{1}{r}$$



$$\mathbb{R} - \left\{ 2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$$

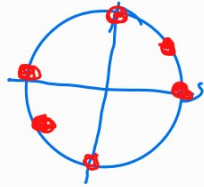
ب

$$C \cdot \tan \neq 1$$

$$C \cdot \sin \neq 0$$

$$\sin \neq 0$$

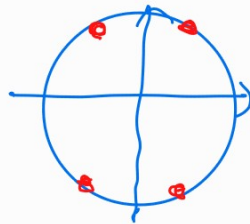
$\rightarrow$



$$\mathbb{R} - \left\{ \frac{k\pi}{4}, k\pi + \frac{\pi}{4} \right\}$$

ج

$$\sin \neq \pm \frac{\sqrt{r}}{r}$$



$$\mathbb{R} - \left\{ k\pi \pm \frac{\pi}{6} \right\}$$

د

$$r|n - r| > \frac{1}{r} \rightarrow |n - r| > \frac{1}{r}$$

-4

$$n - r > \frac{1}{r} \rightarrow n > \frac{r+1}{r}$$

$$n - r < -\frac{1}{r} \rightarrow n < \frac{r-1}{r} \rightarrow D_f = (-\infty, \frac{r-1}{r}) \cup (\frac{r+1}{r}, +\infty)$$

$$r - 2|n| \geq 0 \rightarrow |n| \leq \frac{r}{2} \rightarrow -\frac{r}{2} \leq n \leq \frac{r}{2} \rightarrow D_f = [-\frac{r}{2}, \frac{r}{2}]$$

الف ۱.

$$D_f = \mathbb{R} - \{0\}$$

$$\begin{matrix} + & \checkmark \\ - & \checkmark \\ 0 & \times \end{matrix}$$

ب. همراه نامشخص است فقط